

Appl. No.: 10/630,129
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Off. Act. Dated: 05/17/05

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended): An apparatus for accommodating a fast change of digital streaming formats or sources in a video server system connected to one or more video display devices over a communications link, comprising:

a video stream controller; and

means associated with said video stream controller for allowing the format or source of a digital video stream to change without breaking the communications link to the video display device and while preserving the transport portion of the communications link.

2. (currently amended): An apparatus as recited in claim 1, wherein said means comprises:

a source control library; [[and]]

a streaming library;

wherein said stream controller is connected between said source control library and said streaming library; and

wherein the communications link between an interconnected video display device and the streaming library does not change in response to a video source or video format change.

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3. (original): An apparatus as recited in claim 2, wherein the source control library comprises:

- a source route selection module; and
- a plurality of media sources connected to the source route selection module;

wherein the source route selection module selects which media source provides data to the stream controller.

4. (original): An apparatus as recited in claim 3, wherein said media sources comprise at least two of the following:

- an analog video source;
- an Ethernet streaming video source; and
- a hard disk drive.

5. (original): An apparatus as recited in claim 3, wherein said media sources comprise a plurality of analog video sources, and further comprising:

- a plurality of analog video decoders, each analog video decoder connected to a respective analog video source;
- an analog source router multiplexer connected to the analog video decoders;

and

- a plurality of digital compression encoders connected between the analog source router multiplexer and the source route selection module.

6. (original): An apparatus as recited in claim 3, wherein at least one of said media sources comprises an Ethernet streaming video source, and further comprising:

- an Ethernet streaming video interface connected between the Ethernet streaming video source and the source route selection module.

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7. (original): An apparatus as recited in claim 3, wherein at least one of said media sources comprises an audio/visual hard disk drive, and further comprising:
a personal video recorder/file playback module connected between the hard disk drive and the source route selection module.

8. (original): An apparatus as recited in claim 1, wherein the stream controller comprises:
a streaming module interface package connected to the source route selection module.

9. (original): An apparatus as recited in claim 8, wherein the stream controller further comprises:
a universal plug and play (UPnP) software stack connected to the streaming module interface package; and
wherein the network display terminal accesses the UPnP software stack via a network connection.

10. (original): An apparatus as recited in claim 1, wherein the streaming library comprises:
at least one real time streaming protocol/real time transport protocol (RTSP/RTP) streaming module connected to the streaming module interface package.

11. (original): An apparatus as recited in claim 10, wherein the streaming library further comprises:
at least one hypertext transfer protocol (HTTP) streaming module connected to the streaming module interface package.

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12. (original): An apparatus as recited in claim 11, wherein the streaming library further comprises:

at least one user datagram protocol (UDP) streaming module connected to the streaming module interface package.

13. (original): An apparatus as recited in claim 12, wherein the network display terminal is connected to at least one of: the RTSP/RTP streaming module, the HTTP streaming module, and the UDP streaming module.

14. (currently amended): An apparatus for accommodating a change of digital streaming formats or sources in a video server system, comprising:

a source control library;

a streaming library; and

a stream controller connected between the source control library and the streaming library;

wherein a streaming connection, established between a network display terminal and the streaming library does not change in response to a video source or video format change.

15. (original): An apparatus as recited in claim 14, wherein the source control library comprises:

a source route selection module; and

a plurality of media sources connected to the source route selection module;

wherein the source route selection module selects which media source provides data to the stream controller.

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16. (original): An apparatus as recited in claim 15, wherein said media sources comprise at least two of the following:

- an analog video source;
- an Ethernet streaming video source; and
- an hard disk drive.

17. (original): An apparatus as recited in claim 15, wherein said media sources comprise a plurality of analog video source, and further comprising:

- a plurality of analog video decoders, each analog video decoder connected to a respective analog video source;

- an analog source router multiplexer connected to the analog video decoders;
- and

- a plurality of digital compression encoders connected between the analog source router multiplexer and the source route selection module.

18. (original): An apparatus as recited in claim 15, wherein at least one of said media sources comprises an Ethernet streaming video source, and further comprising:

- an Ethernet streaming video interface connected between the Ethernet streaming video source and the source route selection module.

19. (original): An apparatus as recited in claim 15, wherein at least one of said media sources comprises an audio/visual hard disk drive, and further comprising:

- a personal video recorder/file playback module connected between the hard disk drive and the source route selection module.

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20. (original): An apparatus as recited in claim 14, wherein the stream controller comprises:

a streaming module interface package connected to the source route selection module.

21. (original): An apparatus as recited in claim 20, wherein the stream controller further comprises:

a universal plug and play (UPnP) software stack connected to the streaming module interface package; and

wherein the network display terminal accesses the UPnP software stack via a network connection.

22. (original): An apparatus as recited in claim 14, wherein the streaming library comprises:

at least one real time streaming protocol/real time transport protocol(RTSP/RTP) streaming module connected to the streaming module interface package.

23. (original): An apparatus as recited in claim 22, wherein the streaming library further comprises:

at least one hypertext transfer protocol (HTTP) streaming module connected to the streaming module interface package.

24. (original): An apparatus as recited in claim 23, wherein the streaming library further comprises:

at least one user datagram protocol (UDP) streaming module connected to the streaming module interface package.

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25. (original): An apparatus as recited in claim 24, wherein the network display terminal is connected to at least one of: the RTSP/RTP streaming module, the HTTP streaming module, and the UDP streaming module.

26. (currently amended): A method for managing video streams provided by a home video server, comprising:

receiving a request for streaming content from a network display terminal;
selecting a first stream source for the streaming content;
establishing a streaming protocol connection with the network display terminal;
packetizing the streaming content from the first source according to a first

transport stream format;

transmitting packetized streaming content to the network display terminal; and
maintaining the streaming protocol connection and preserving the transport
portion of the streaming connection with the network display terminal when a second
stream source is selected, or when packetizing according to a second transport stream
format is selected.

27. (original): A method as in claim 26, further comprising:

selecting a second source for the streaming content;
packetizing the streaming content from the second source; and

transmitting packetized streaming content to the network display terminal over
the streaming protocol connection established to transmit the streaming content from
the first source.

28. (original): A method as in claim 26, wherein the request for streaming
content is received at a stream controller, the stream controller comprising:
a streaming module interface package; and

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a universal plug and play (UPnP) software stack connected to the streaming module interface package.

29. (original): A method as in claim 28, wherein the request for streaming content comprises a UPnP request that is received at the UPnP software stack.

30. (original): A method as in claim 26, wherein a stream source is selected using a source route selection module, the source route selection module being connected to a plurality of media sources.

31. (original): A method as in claim 30, wherein the media sources comprise at least two of the following:

- an analog video source;
- an Ethernet streaming video source; and
- a hard disk drive.

32. (original): A method as in claim 26, wherein the streaming protocol connection with the network display terminal is established via a real time streaming protocol/real time transport protocol (RTSP/RTP) streaming module.

33. (original): A method as in claim 26, wherein the streaming protocol connection with the network display terminal is established via a hypertext transfer protocol (HTTP) streaming module.

34. (original): A method as in claim 26, wherein the streaming protocol connection with the network display terminal is established via a user datagram protocol (UDP) streaming module.

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35. (currently amended): A home video server system, comprising:
a home video server;
at least one network display terminal connected to the home video server;
means for receiving a request for streaming content from the network display terminal;
means for selecting a stream source for the streaming content;
means for establishing a streaming protocol connection with the network display terminal; and
means for maintaining an established streaming protocol connection and preserving a transport portion of the streaming protocol connection with the network display terminal when the stream source or format changes.